

Initially, the Applicants note that the presently claimed invention provides a cosmetic composition in the form of an aqueous gel. More specifically, the aqueous gel of the claimed invention contains the following:

a) at least one non-crosslinked acrylic polymer having a C₈-C₃₂ hydrophobic chain, in an amount of 0.8 to 20%.

b) as sole surfactant(s), one or more non-ionic surface active agent(s) in an amount of less than 1% by weight with respect to the total weight of the composition, the ratio (R) of surfactant to non-crosslinked polymer varying from 1/20 to 1/5, and

c) at least one insoluble conditioning agent selected from silicones, hydrocarbons, fatty alcohols and fatty esters, in an amount of 0.01 to 20% by weight with respect to the total weight of the composition.

The problem to be solved by the claimed invention is to control the texture of the gels for improving its prehension by the user and render them more pleasant on and easier to apply to the skin and more particularly the hair (page 1, lines 25-29).

A further purpose of this invention was to provide aqueous gel type compositions free from foaming when applied.

The purposes are achieved according to the instant invention because of the specific choice of the 3 previous components mixed together in the specified amounts.

The insoluble conditioning agent is necessary for providing the desired gel properties as well as good melting properties when touched.

The choice of a non-cross-linked acrylate copolymer having hydrophobic chains and a non-ionic surfactants provides a convenient texture structure for the gel rendering it easy to pick-up by the user, i.e., not brittle like prior gels but in contrast with good flowing properties.

By the choice of both compounds, the claimed invention provides a physical cross-linking which is more advantageous than a chemical cross-linking (such as would be provided by cross-linked polymers). This physical cross-linking takes place between the hydrophobic chains of the associative polymers and the micelles of the non-ionic surfactant, the latter being more efficient than anionic or cationic surfactants and optimal for the amount and ratio required according to the invention.

The cited patent teaches the use of a concentrate of specific alkylglucosides (col. 4, lines 9-10).

The cited patent is mainly concerned with providing a pearlescent appearance to an emulsion type composition and more particularly foaming composition.

Accordingly, the applicants submit that the teaching of the cited patent is far removed from the problem considered and solved according to the presently claimed invention.

More precisely, Amalric teaches that the concentrate:

- can be used as pearling agent in order to provide a pearling effect which is homogenous and stable all the time (col. 2, lines 17-19),

- can be used in compositions which may be chosen from foaming compositions such as, *inter alia*, shower gels, make up removing gel for the face,...(col. 4, lines 44-...),

- may act as a foaming surfactant (col. 4, lines ...-51),

- is present in the composition between 2 and 15% by weight (col. 3, lines 52-53), the concentrate contains at least 60% of alkylglycoside (col. 1, lines 65-66), consequently the amount of alkyl glycoside is over 1% by weight,

Accordingly, the cited patent is believed to teach away from using a non ionic surfactant in an amount less than 1%, to obtain non foaming aqueous gels.

Furthermore, Amalric states that a composition including such a concentrate does not need to be supplemented with a thickening polymer as a stabilizing agent (see col. 4, 30-36).

Thus, Amalric also is believed to teach away from using such a thickening agent. Moreover, the cited patent does not provide motivation for selecting the specific copolymer required according to the presently claimed invention, i.e., having hydrophobic chains for establishing a physical cross-linking.

Finally, the Amalric patent is silent about a specific ratio between the alkyl glycoside and a non-crosslinked polymer including hydrophobic chains. Consequently, the cited patent would not have led one of ordinary skill in the art to consider this parameter to be relevant for obtaining aqueous gels exhibiting improved properties such as those discussed above.

However, these characteristics are important to achieve a composition with improved properties as is shown in the attached comparativ t sts, in which only the

composition of the presently claimed invention (composition A) exhibits non foaming ability together with a satisfying consistency and melting property when touched.

Consequently, these data are submitted to demonstrate the unexpected beneficial results obtained by the non-ionic nature of the surfactant and of the ratio R.

In view of the all the above and attached, the presently claimed invention is submitted to be patentable over the cited patent and withdrawal of the Section 103 rejection is requested.

The claims are submitted to be in condition for allowance and a Notice to that effect is requested. The Examiner is requested to contact the undersigned if anything further is required in this regard.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____



B. J. Sadoff
Reg. No. 36,663

BJS:pp
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100

COMPARATIVE TESTS

The tests have been realized by preparing four leave-in care gels comprising:

- 1 g. of acrylic acid/C₁-C₁₈ alkyl acrylate/stearyl methacrylate polyoxyethylenated with 20 moles of ethylene oxide terpolymer, commercialized under the name of "Acrysol ICS-1[®]" by the company ROHM & HAAS,
- 2 g. of isohexadecane commercialized under the name of "Permethyl 101A[®]" by the company BAYER SILICONE,
- a surfactant,
- 2-amino-2-methyl-1-propanol in an amount allowing to adjust the pH to 7.5, and
- water in an amount to adjust the formulation to 100 g.

(The amounts indicated above are expressed as active material.)

The corresponding gel formulations A, B, C and D are different one to the other either by the nature of the surfactant or by the amount of the surfactant, and thus by the ratio non ionic surfactant / non crosslinked polymer.

The table below shows the nature of the surfactant and its amount for the 4 prepared gels.

| | GEL A | GEL B | GEL C | GEL D |
|---------------------|---|------------------------|---|---|
| Surfactant | Tween 20 ^{®*} (non ionic surfactant) | Tween 20 ^{®*} | Sodium lauryl ether sulfate (anionic surfactant) | Cetrimonium chloride (cationic surfactant) |
| Amount (g. A.M.) | 0.1 | 0.6 | 0.1 | 0.1 |
| R** | 0.1 | 0.6 | 0 | 0 |

* Lauryl ester of sorbitol oxyethylenated with 20 moles of ethylene oxide.

** R= ratio of non-ionic surfactant to non-crosslinked polymer.

NONY & PARTNERS

Those gels were tested on brown natural hair locks weighting 2.5 g. Before the application of those gels, the hair locks were wetted and dried in order to be humidified. Then the hair locks were impregnated with 0.4 g. of the gel to be tested.

In terms of aspect and touching feelings, and in terms of comportment on hair locks, those gels lead to the following properties:

- GEL A: satisfying consistence, good melting propriety when touched; does not foam on the hair locks,
- GEL B: thicker consistence and more breakable than with gel A; does not foam on the hair locks,
- GEL C: thickest consistence, the most breakable and not much meltable when touched; does foam a lot on hair locks,
- GEL D: intermediate consistence between gels A and B, foams a bit on hair locks.

Consequently, only the formulation A, which is the only one corresponding to the invention, exhibits the expected properties, i.e. improved quality regarding feeling when touched and absence of foaming when applied.